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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,422	04/24/2001	Pyong-Young Jung	12109.42US01	5438
7590 11/30/2004 Merchant & Gould P.C. P.O. Box 2903 Minneapolis, MN 55402-0903			EXAMINER FERRIS III, FRED O	
			ART UNIT 2128	PAPER NUMBER

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/841,422	<b>Applicant(s)</b> JUNG, PYOUNG-YOUNG	
	<b>Examiner</b> Fred Ferris	<b>Art Unit</b> 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
- 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
- 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>07/22/03</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. *Claims 1-15 have been presented for examination based on applicant's disclosure filed 24 April 2001. Claims 1-15 have been rejected by the examiner.*

#### **Priority**

2. *Applicant's claim for foreign priority based on Republic of Korea application number 2000-22614 filed on 27 April 2000 is acknowledged.*

#### **Drawings**

3. *Applicant's formal drawings filed on 24 April 2001 have been approved by the examiner.*

#### **Claim interpretation**

4. *Applicant's are claiming limitations relating to a CAD based system and method for obtaining building construction project costs and material information for a bill of materials from CAD drawings. The language of the claims and the specification include the use of the term bill of material "take-off processing" which has not been clearly defined by the claims or in the specification (see 112(1) rejection below). The examiner believes that applicants are simply referring to creating a Material Takeoff List which includes all parts of the building, taken from the plans, by simply tallying and checking off the items indicated on the drawings and specifications. The Material Takeoff List identifies all parts of the building, starting with its base and working upward and is well-*

*known in the construction art. These features are generally inherently available in commercial software products such as OnScreen Takeoff, from OnCenter Software, MaxTakeoff, from MaxView Corp., and BidScreen/Bidwork, from Vertigraph Inc. (See: "eTakeoffs for ePlans in Excel", BidScreen XL, Product Description, Vertigraph Inc., 2000, for example) For purposes of the art rejections listed below, the examiner has interpreted the bill of material "take-off processing" to be equivalent to the well-known process of creating Material Takeoff List. If applicants disagree with the proposed equivalence, they are are invited to explain how the claimed "take-off processing" of the present invention differs from the well-known process of creating Material Takeoff List.*

### **Specification**

5. *The abstract of the disclosure is objected to because the length of the abstract contains more than a single paragraph and exceeds 150 words in length. MPEP 608.01 requires the following:*

Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in **a single paragraph** of **150 words or less** commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

*Correction is required. See MPEP § 608.01(b).*

*The disclosure is also objected to because of the following informalities:*

*The specification contains numerous grammatical errors. This makes it difficult to determine applicant's invention. For example, page 1, line 21 of the specification recites, "a person who is charged of construction or manufacture is allowed to analyze each information contained in a plurality of design drawings based on the design drawing created by the CAD program over a long period of time, takes off the materials and cost for each material, and make out a detail estimate sheet for use." This passage is confusing and does not make sense. Other examples can be found in the text beginning on page 10, line 2, and page 11, line 8. Appropriate correction is required.*

### **Claim Objections**

6. *Claims 12 and 13 are objected to because of the following informalities: Specifically, claims 12 and 13 contain language that is grammatically incorrect and does not make sense. For example, claims 12 recites, "if the client computer requests an information provision service, the web host server take off a service cost for the information provision service request and discloses it in the web site" in line 3. Claim 13 recites, "service cost and disclosing it in the web site further comprises the step in which the if there is a service cost adjustment request from the client computer". Appropriate correction is required.*

### **Claim Rejections - 35 USC § 112**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**7. Claims 1-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.**

Specifically, independent claims 1, 7, 10, and 11 include limitations relating to to a system and method for "take-off" processing that have not been sufficiently defined by the specification. Specifically, the specification gives no clear description of the "take-off" process and discloses no algorithm or techniques for performing the actual process involved in "take-off" processing. While the specification makes reference to a bill-of-materials "take-off" processing engine (page 10, line 9), taking off "position information for each part an region of a design item", there and no clear description of specifically how the "take-off process is accomplished by the system or method, or exactly what the take-off process consists of. Page 10, line 4 of the specification refers to a "take-off formula" but the examiner has found no "formula" for executing the take-off processing in the specification. Figures 9-12 do not cure this deficiency since, for example, Figure 9, block S56, indicates that the take-off is done "automatically" but the specification gives no description of how this "automatic" process is achieved. As noted above under claim interpretation, the examiner believes that applicants are referring to a simple Material Takeoff List, however, this has not been clearly defined by the specification,

*nor has the specification disclosed any process for determining how the system would create such a list. Accordingly, one skilled in the art would not know how to make and/or use the claimed "take-off" processing from the description contained in the specification without undue experimentation. Dependent claims 2-6, 8-9, and 12-15 inherit the defect of the claims from which they depend.*

### ***Claim Rejections - 35 USC § 102***

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**8. Claims 1, 7, and 11-15 are rejected under 35 U.S.C. 102(a) as being anticipated by "On-Screen Takeoff 2.0", Press Release, On Center Software, Inc., 3 April 2000.**

*Independent claims 1 and 7 are drawn to:*

*system and method for take-of of materials using 2-D CAD system for creating design by:*

- means for containing **project information** including **position data**, design **specifications**, and **shape data** for design items*
- means for containing **material/cost information** for **building elements** in CAD drawing with project design items*
- bill-of-material take-off processing means for **take-off of the materials** and cost for object by **analyzing** position **information**, shape information, and material information for **building elements** in CAD drawing with reference to project, material/cost information containing means.*

*Per independent claims 1 and 7: On-Screen Takeoff 2.0 is a commercially available cost estimation takeoff program that provides project planning features including project information such as design specifications, shape and position*

*information, report generation (i.e. bill of material, spreadsheets, etc.), and works with both paper plans (scanned) and electronic (CAD) drawings. (pages 1-4, especially page 1, para: 1-3, page 3, para: 1-8) On-Screen Takeoff 2.0 contains project information in spreadsheet format and includes the capability to analyze (calculate) object cost for building elements and the ability to quantify lengths, areas, zone shapes, and volumes; perform counts, print color coded drawings, and generate material takeoff lists. (page 1, para: 1) On-Screen Takeoff 2.0 therefore inherently provides the "means for" containing and processing project, material/cost, and take-off of materials. Further, the On-Screen Takeoff 2.0 software product is directed to solving the same problem as the claimed invention. Namely, that of eliminating the need for manual takeoff list generation by automatically extracting takeoff list information from CAD drawings or digitized paper plans. (page 3, para: 2)*

*Per independent claim 11: On-Screen Takeoff 2.0 discloses a commercially available material takeoff list software system as disclosed above. A system running the commercial available On-Screen Takeoff 2.0 software inherently provides access to a web host server for communication with network to facilitate transfer of project design information (drawings, bill of material, cost information, material takeoff list, etc.) over a network.*

*Per dependent claims 12 and 13: While the language of these claims does not make sense as noted above under claim objections, the examiner interprets these limitations as relating to well-known method for web-based payment which would*



*obviously be inherent to a system running a commercially available software program such as On-Screen Takeoff 2.0.*

*Per dependent claims 14 and 15: Features relating to converting CAD drawing fonts and assigning a client user number and would, again, obviously be inherent to a system running a commercially available software program such as On-Screen Takeoff 2.0.*

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

***9. Claims 2-5, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over "On-Screen Takeoff 2.0", Press Release, On Center Software, Inc., 3 April 2000 in further view of U.S. Patent 6,438,922 issued to DeLeFevre.***

*As previously cited above under 102(a) rejections, On-Screen Takeoff 2.0 teaches the elements of the limitations of independent claims 1, and 7 as follows:*

*On-Screen Takeoff 2.0 is a commercially available cost estimation takeoff program that provides project planning features including project information such as design specifications, shape and position information, report generation (i.e. bill of material, spreadsheets, etc.), and works with both paper plans (scanned) and electronic (CAD) drawings. (pages 1-4, especially page 1, para: 1-3, page 3, para: 1-8) On-Screen Takeoff 2.0 contains project information in spreadsheet format and includes the capability to analyze (calculate) object cost for building elements and the ability to quantify lengths, areas, zone shapes, and volumes; perform counts, print color coded drawings, and generate material takeoff lists. (page 1, para: 1) On-Screen Takeoff 2.0 therefore inherently provides the “means for” containing and processing project, material/cost, and take-off of materials. Further, the On-Screen Takeoff 2.0 software product is directed to solving the same problem as the claimed invention. Namely, that of eliminating the need for manual takeoff list generation by automatically extracting takeoff list information from CAD drawings or digitized paper plans. (page 3, para: 2)*

*On-Screen Takeoff 2.0 does not explicitly disclose extracting a room code and a building code and does not disclose forming a closed curve with center on a reference line intersected by objects having a given code.*

*Per dependent claims 2 and 8: In addition to the limitations relating to material takeoff, shape information, and project information previously addressed above, these claims require additional limitations relating to CAD drawing position, room, and material*

*codes for building elements. DeLeFevre discloses the use of position, room and material codes for building elements in CAD drawings, indexing the elements by project relative to building, floor, room, linking materials, and analyzing and correcting any discrepancies. (Abstract, Summary, CL15-L11-49, CL16-L7-25, Tab. 1, Figs. 1-11, 20-26)*

*Per dependent claims 3 - 5: DeLeFevre discloses correcting and supplementing height, length, and position building element data as noted above. (see: CL7-L30-60, especially CL9-L37-65, Tab. 1) DeLeFevre further discloses reference lines intersected by objects (codes building elements). (CL17-L27-35, CL13-L11-57, Figs. 10-12, 24, 25) Forming a "closed curve" with the center would have been an obvious design choice to one skilled in art for extracting the shape information. The examiner equates this feature the well-know click and drag cursor feature commonly used CAD systems for object selection and relocation. On-Screen Takeoff 2.0 discloses extracting shape information data information and data (arbitrary) input by an operator as previously noted above.*

*Per independent claim 10: On-Screen Takeoff 2.0 discloses a commercially available material takeoff list software system as disclosed above. Registering a project object would obviously be an inherent feature in a commercially available software product such as On-Screen Takeoff 2.0 as would storing material codes for searching a database. Selecting the material codes, and classifying by type, is disclosed by DeLeFevre as noted above. (See: Tab. 1) Copying material and related data into a registered project would also be an inherent feature to On-Screen Takeoff 2.0.*

*It would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to modify the teachings of On-Screen Takeoff 2.0 relating to a commercially available cost estimation takeoff program that provides project planning features, with the teachings of DeLeFevre relating to the use of material codes for building elements in CAD drawings, to realize the claimed invention. An obvious motivation exists since, in this case, the On-Screen Takeoff 2.0 reference teaches to the DeLeFevre reference, and the DeLeFevre reference teaches to the On-Screen Takeoff 2.0 reference. Specifically, both On-Screen Takeoff 2.0 and DeLeFevre teach project planning from CAD drawings for building structures and are used in the same technical arena as noted above. On-Screen Takeoff 2.0 teaches to DeLeFevre because On-Screen Takeoff 2.0 discloses the automation of the process of creating a material takeoff list for a building structure projects from CAD drawings. (See: On-Screen Takeoff 2.0 pages 1-4)). DeLeFevre teaches to On-Screen Takeoff 2.0 because DeLeFevre specifically discloses the use of material codes for building elements in CAD drawings. (See: DeLeFevre Tab. 1) Further, the level of skill required by an artisan to realize the claimed limitations of the present invention is clearly established by both references. (See: On-Screen Takeoff 2.0/DeLeFevre, Abstract/Background) Accordingly, a skilled artisan having access to the teachings of On-Screen Takeoff 2.0 and DeLeFevre, would have knowingly modified the teachings of On-Screen Takeoff 2.0 with the teachings of DeLeFevre (or visa versa) to realize the claimed elements of the present invention.*

**Allowable Subject Matter**

10. Claims 6 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and **providing all issues relating to the 112(1) rejections, claim objections, and specification objections noted above can be resolved.** In particular, the prior art of record does not disclose the elements of the limitations relating to linking object information by transferring the handle value of a polyline entity of the closed curve from room name code entity data to extended data as recited in dependent claims 6 and 9.

**Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Careful consideration should be given prior to applicant's response to this Office Action.

U.S. Patent 6,816,819 issued to Loveland teaches CAD modeling and estimating/planning of construction parameters.

U.S. Patent 5,761,674 issued to Ito teaches construction project information mangement.

"eTakeoffs for ePlans in Excel", BidScreen XL, Product Description, Vertigraph Inc., 2000 teaches automatic generation of material takeoff list from CAD drawings.

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*Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 571-272-3778 and whose normal working hours are 8:30am to 5:00pm Monday to Friday. Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 571-272-3700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean Homere can be reached at 571-272-3780. The Official Fax Number is: (703) 872-9306*

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